

‘A curriculum that allows children to develop a conceptual and procedural understanding, using concrete, pictorial and abstract representations taught with an emphasis on challenge for all.’

One, Ten, Five... Derive

An incredibly powerful resource to encourage children to calculate their own times tables facts is ‘one, 10, five... derive’.

| | | | | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|---|---|----|----|----|
| Multiplicand | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Multiplier | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Product | | | | | | | | | | | | |

This grid is all you need! Children can be given printed slips, and then move on to creating their own – can be used for the rest of their lives whenever needed!

Step-by-step guide

1. Always start off by inputting the product for 1x and 10x.

Then the children can find 5x by halving the product of 10x.

| | | | | | | | | | | | | |
|--------------|---|---|---|---|----|---|---|---|---|----|----|----|
| Multiplicand | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Multiplier | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Product | 7 | | | | 35 | | | | | 70 | | |

Then, start filling in the rest of the grid. You can do so by adding/subtracting 7 from the numbers you already know.

| | | | | | | | | | | | | |
|--------------|---|----|---|----|----|----|---|---|----|----|----|----|
| Multiplicand | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Multiplier | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Product | 7 | 14 | | 28 | 35 | 42 | | | 63 | 70 | 77 | |

Some may find it easier to double 1x in order to find 2x, then double again to find 4x and so on.

For instance:

| | | | | | | | | | | | | |
|--------------|---|----|---|----|----|---|---|----|---|----|----|----|
| Multiplicand | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Multiplier | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Product | 7 | 14 | | 28 | 35 | | | 56 | | 70 | | |

You can then easily finish off the grids by adding/subtracting 7 each time.

| | | | | | | | | | | | | |
|--------------|---|----|----|----|----|----|----|----|----|----|----|----|
| Multiplicand | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Multiplier | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Product | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | 70 | 77 | 84 |

The idea is then for children to highlight the squares where they can rapidly recall the answer – the squares which aren’t highlighted are then the calculations which the children have to focus to learn! Eg. Vicky’s grid: next she needs to learn only these 4 calculations.

| | | | | | | | | | | | | |
|--------------|---|----|----|----|----|----|----|----|----|----|----|----|
| Multiplicand | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Multiplier | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Product | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | 70 | 77 | 84 |